

# Hematopoietic Progenitor Cells Apheresis Collection (HPC-A) (Stem Cell Apheresis)

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Hematopoietic Progenitor Cells Apheresis (Hee-ma-ta-po-e-tik Pro-gen-i-tor Cells A-fer-E-sis) is a procedure used to collect stem cells. Stem cells normally live in bone marrow. Medicine is used to help release stem cells from the bone marrow into the bloodstream where they can be collected. These cells are then used for a stem cell transplant.

## Types of Stem Cell Transplants

There are two types of transplants that can be done with stem cells:

- **Autologous** means that a patient's own stem cells are collected. These are frozen and stored until needed for the transplant.
- **Allogeneic** means that stem cells are collected from a donor and then given to a patient during the transplant. Blood work called **tissue typing** is done to find a match.

## Stem Cell Mobilization

Stem cell mobilization is when stem cells move out of bone marrow and into the bloodstream.

There are two ways to move stem cells:

- Chemotherapy, plus the use of medicines called **colony stimulating factors (CSFs)**. CSFs are also known as growth factors. These medicines may include Neupogen (GCSF) or Mozobil (Plerixafor). This method is used for autologous stem cell collection.
- The use of CSFs. These medicines may include Neupogen or Leukine.

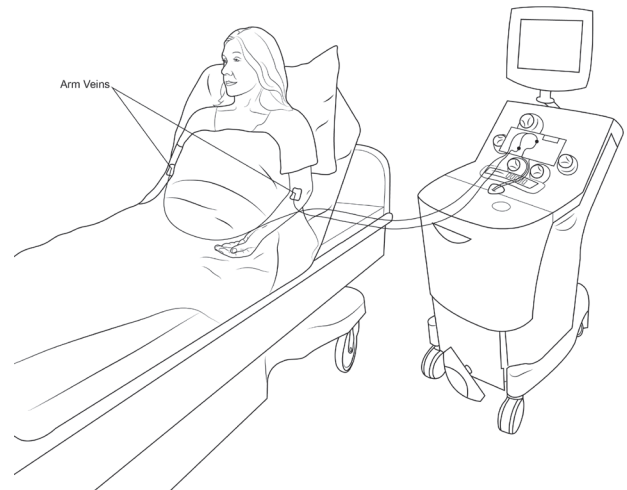
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**This handout is for informational purposes only. Talk with your doctor or health care team if you have any questions about your care.**

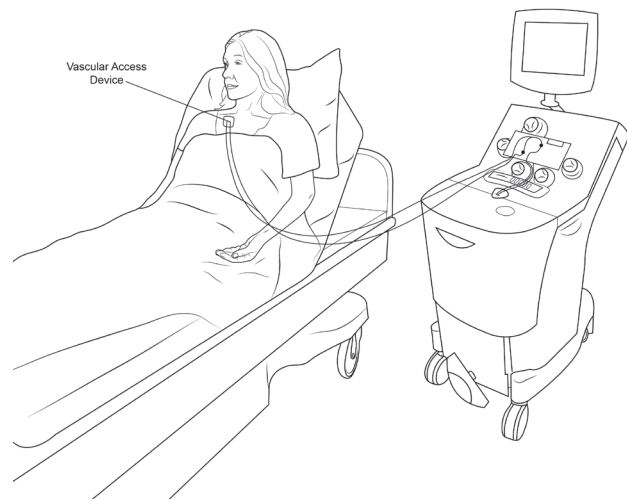
## Stem Cell Collection

The stem cells are collected by a procedure called **apheresis** which means “to take away.”

For this procedure, 2 intravenous (IV) catheters are used. An IV catheter is a long, thin, flexible tube that is placed in your vein. One IV is used to withdraw blood and the other IV is used to return blood to you. If you have a double lumen **central venous catheter (CVC)** in place, this can be used instead.



Both methods provide a way for blood to be passed through the apheresis machine. During your outpatient appointment for pre-transplant evaluation, an apheresis nurse will check the veins in your arm to see if they are okay to use or if a CVC needs to be placed.



During this process, your blood will flow out from one IV site, through the tubing and into the machine. The machine separates out the stem cells from your blood. Only a small amount of blood is inside the machine at any time.

The stem cells are collected into an IV bag. The blood flows back into your body through the other IV site. This process continues for about 4 to 6 hours. A blood thinner (**anticoagulant**) is slowly added to your blood during the procedure. This helps prevent your blood from clotting. Side effects from the blood thinner may include slight tingling around your mouth, chest vibrations and a cold sensation. Calcium is given to help with these symptoms. Side effects are not common, but could include dizziness, fainting, nausea, and seizures. If you have any side effects, tell your nurse or doctor right away.

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## After Stem Cell Collection

- You may feel tired after your procedure. Limit your activity for 12 hours after your procedure.
- Unless told otherwise by your doctor, drink 8 to 10 cups of non-caffeinated fluid each day to stay hydrated.
- If you get dizzy, lie down and put your feet up above your head, if possible.
- If you had IVs placed in your arms, leave your bandages on and keep them dry for at least 5 hours. **Do not** lift anything heavy or exercise during this time.
- This procedure can lower your body's ability to clot your blood for a short time and you are at risk for bruising or bleeding.
  - ▶ **Do not** shave for 12 hours after your treatment.
  - ▶ **Do not** do any activities or exercises that put you at risk for bruising or bleeding.
- If you have any redness or pain at your IV sites or if you have any questions or concerns, please call the following number:

**The Ohio State University Medical Center Apheresis Unit  
(614) 293-8672. Call this number between 7:00 am and  
5:00 pm.**

**After hours call (614) 293-8000 and ask the operator to page the  
pathology resident on call.**